



CTCGTGGCGAATTGGCAGAGACCGCGTGTTCGGCCTGGTAGAGATTTCTGAAGACA
CCAGTGGGCCGTGGAACCAAACTGCGCGTGGCGGGCGTGGGACAACGAGGCC
GCGGAGACGAAAGGCAGAATGCCCTCATGAACTAAAAGCAGCTGCTTCCCCAGACCAACTGAGA
AAATTAGTCGAATTGGAACTTGGCATTAAATGTTGACTTGGCAATTTCACACGGCAAT
ATCATCTACAAACAGCTTCTACCGCTATGGAGAAAATAAATTCTTGTCAAGTTGAAGGGT
TCAGAAAATTACTTCAAATATAGGCATAGATAAGATTAAGAATCCATACACCATG
ACCACGACCATCACTCAGACCAAGGCATCACTCAGACCATGAGCGTCACTCAGACCATG
AGCATCACTCAGACCAAGGCATCACTCTGACCATGATCATCACTCTCACCATATCATG
CTGCTTCTGGAAAAATAAGCAGAAAGCTCTTGGCCAGACCATGACTCAAGATAGTCAG
GTAAGAACATTCAGAAACAGCGGGAAAGGACCTACCGACAGAACATGCCAGTGGTA
GAAGGAATGTCAGACAGTGTAGTGTAGTGAGTGACCTCAACTGTGACAACACTG
TCTCTGAAGGAACACTCTTCTAGAGACAAATAGAGACTCCAAGACCTGGAAAACCTTC
CCAAAGATGTCAGACGCTTCACTCCACCCAGTGTACATCAAAGAGCGGGTGGAGCCGG
TGGCTGGTAGGAAAACAAATGAATCTGTAGTGAGTGACCCCGAAAAGGCTTATGATTTCA
GAAACACAAATACTTCAGGGCTTCAAGGTGTTCATGCACTCAAAGCTACTGACATCTCATG
GCATGGGCATCCAGGTTCCGCTGAATGCAACAGAGTCAACTATCTGTGACCGCCATCA
TCAACAAAATTTGATGCTGATCTGTGATTCATGAACTGAAAGTGAAGGCTGAATTC
CTCAGGAAACACTATTCTTCAAAATAGCCTGGGGTTGTTTATAGCCTTCCATCA
TCAGTTCTGTCTGCTGGGGGTTACTTGTGCTGCTTCTGATGAACTGGGTGTTT
AATTCCTCTGAGTTTCTTGTGGCACTGGCGGTGGGACTTGTGTTGATGCTTT
TACACCTTCTTCCACATTCTCATGCAAGTCACCACTAGTCAGGATGAAAGAACAG
CAATGGAAATGAAAAGAGGACCATTTCTGAGTGTCTGATGCTTCTGATGAAAGAAA
GTGCTTATTGATTCACGGTGAAGGGCTAAGCTCTAGGAGGCTGTATTCTATG
TTCTGTGGAACATGCTTCAACATGAACTTAAAGATAAGAAGCAGTTGCTCAAGTATGAAT
AGAAGAAAACCTGAAAATGATGATGATGTTGAGGATTAAGAAGCAGTTGCTCAAGTATGAAT
CTCAACTTCAACAAATGAGGAGAAAAGTAGATGAGTGTGAAACTGAAGGCTTATTAC
GAGCAGACTCACAAGGCGCTCCACCTTGTGTTCTGATGCACTGGGAGAAG
AAGAGGCTGATAGCTCATGCTCATCCACAGGAAGTCTAACATGAATGTCACCGAG
GGTGAAGAATAAGGCTTCACTTCCACATTCCAGGATACACTCAGGCTAGCAGATCTCA
TTCAACCCATCATGACTACCATCATATTCTCATCATCACACCACCAAAACCCATCT
CTCACAGTCACAGCAGCGCTACTCTGGGGAGAGCTGAAACTGAAGGCTTATTAC
TGGCCTGGATGGTATAATGGGTGATGGCTGCAACATTCACTGGGATGGCTGCAATTG
GTGCTGCTTTACTGAGGCTTATCAAGTGGTTAAAGTACTCTGTGCTGTTCTG
ATGAGTTGCTCATGAAATAGGACTCTGGCTGCTTCTAACAGGCTGATGACCGTGA
AGCAGGCTGCTTAAATGATGCTGGCATGCTGGCTATCTGGAAATGGCAACAG
GAATTTCATGGTCAATTGCTGAAAATGTTCTGATGGTATTTGACTACTGCTG
GCTTATTCTGATGTTGCTGGTGTGGTGTGGTACTGGTACCTGAAATGCTGCAACATGATGCTA
GTGACCATGGATGTAAGCGCTGGGGTATTCTTCTAACAGGATGCTGGGATGCTTGG
GTTTGGAAATTGTTACTTATTCATATTGACCATGAAATGGGATGCTGTTCTG
TCTAGTTAAAGGTTAAATGCTAGAGTAGCTGTTAAAGGCTGATGCTGGGTTGATT
AGGGAGATGAGTTGATGCTGACTCTGAGCTTAAAGGCTACGTTAAAGGCTACGTT
TTGTTATTGATATTGCTGCTGTTAACAGTCAGTTAAAGGCTACGTTAAATTTAAAGT
TATTCTATCTGGAGATAAAATCTGTGATGCAATTACCGGTTACCGGTTAAAC
TAAACAAAGAGATTGGCATGACATGTTCTGTGATGTTCTGGGAAATGCTTTATGCT
TTTCAAGAACAACACAGTTACTCTCATGTTACTGGATTAGTCTGAACTGCTGG
TGTGTTAGGAATAAGGATGCTGCAAGGCTAAATACCAAGAAGGCTTATACTGAAATT
AGCAAAAGAATAAAGGAGAAAAGAGAAGAATCTGAGAATTGGGGAGGCAAGACTGG
AAAATCACAATAATTGGTGAATAGGAGGAGAAATTAGAATTAAAGTATAAAAAGG
CAGAATTAGTATGAGTACATTCAAAACATTGTCAGGATTATTCACCGTAAAAC
GTAGTGAGCACTCTCATACTAAATTAGTGTACATTAACTTGTATAAATACAGAAAATCT
AAATATTTAATGAAATTCAAGCAATATAACTACCTGACCAAGAAATTGGAAATTTC
TTCGTGGGGTTATATACCGAGTGTGACTGAGTGTGACTGGATGTTCTGGTT
TATTGCGGAAAGTATACCGAGTGTGACTGAGTGTGACTGGATGTTCTGGTT
CAAATATACAGAGTAGTAAACACTTGTGATATATGAGGATATTAAACACTACAGA
TCATTTGATTGCGGAAAGTACTTGTGATACTCTGAGTGTGCTTCACTGG
GAGCAATTGCTTATATACCGGTTACTGACCATGAGGCTGCTGAGTGTGCT
GATGTTCTTTTACACAATAATTCCCTTATATCAGCTTG

FIG. 1



ATGGCGAGGAAGTTATCTGTAATCTTGACTCTGACCTTGCCTCTCTGTACAAATCCC
 CTTCATGAACAAAAGCAGCTGCTTCCCCAGACCCTGAGAAAATTAGTCGAATTGG
 GAATCTGGCATTAATGTTGACTTGCAGTTGAAAGGGTTCAGAAAATTACTTCAA
 TTCTACCGCTATGGAGAAAAATAATTCTTGTCACTGAGGGTTCAGAAAATTACTTCAA
 AATATAAGGCATAGATAAGATTAAAAGAATCCATATAACCCATGACCACGACCCATCACTCA
 GACCACGGAGCATCACTCAGACCCATGAGCGTCACTCAGACCATGAGCATCACTCAGACCC
 GAGCATCACTCTGACCATGATCATCACTCACCATAATCATGCTGCTCTTGTAAAAAT
 AAGCGAAAAGCTTGGCCAGACCATGACTCAGATAGTTCAAGGTAAGATCTAGAAC
 AGCCAGGGAAAGGGAGCTACCCGACAGAACATGCCAGTGTAGAAGGAATGTCAGGAC
 AGTGTAGTGTAGTGAAGTGAACCTCAACTGTGACAACACTGTCTCTGAAGGAACTCAC
 TTCTAGAGACATAAGAGACTTCAAGACCTGGAAAACCTTCCCAAAGATGTAAGCAGC
 TCCACTCCACCCAGTGTACATCAAAGAGGCCGGTGAAGCCGGCTGGCTGGTAGAAAACA
 AATGAATCTGTAGTGAAGCCGGAAAAGCTTATGTTACATGGCATGGGATCAGGTT
 CTCAGGAGTGTTCATGTCATCAAAGCTACTGACATCTCATGGCATGGGATCAGGTT
 CGCTGAATGCAACAGAGTCAACATCTGTCCAGGACCATCATCAACAAAATTGATGCT
 AGATCTGTCTGATTACAAAGTGGAAAAGAGCTGAAATCCCAAAGACCTATTCA
 TTACAATAGCCTGGTTGGTGGTTTATAGCATTTCATCAGTTCCTGTCTG
 CTGGGGTTATCTTGTGCTCTCATGAATCGGGTGTTCATGAAATTCTCTGGTAGTTT
 CTTGTGGCACTTGGCCCTGGGACTTGTAGTGGTGTGCTTTTACACCTTCCACAT
 TCTCATGCAAGTCACCCAGTGTAGCATGGCCTAGAAGAACCGAACATGGAAAATGAA
 GGACCATTTCACTGTCTCTCAAACATAGAAGAAAAGTGCCTATTTGATTCC
 ACGTGGAAGGGTCAACAGCTCTAGGAGGCTGTATTCTGATTTCTTGAAACATGTC
 CTCACATGATCAAATTAAAGATAAGAGAAAAGAATCAGAAAGAACCTGAAAAT
 GATGATGATGTGGAGATAAGAAGCAGTTGTCACAGTGTGAACTTCAACTTCAACAAAT
 GAGGAGAAAAGTAGATACAGATGTCAGAGCTGAGGCTATTACAGCAGACTCACAAAG
 CCCTCCCACTTGTGTTCTGAGCAGCTGGCAGTCTGGAGAAGAAGAGGTCATGAGCT
 CATGCTCATCCACAGGAATCTACATGAAATGTCACCCAGGGTGCAGAATAATGC
 CATTACATTTCAACGATACACTGGCCAGTCAGACGATCTCATTACCAACCATCATGAC
 TACCATCATTTCCATCATCACCAACACCAAAACCCACATCTCACAGCAGCAG
 CGCTACTCTGGGGAGGGCTGAAAGATGCCGGCTGCCACATTGGCTGGATGGTATA
 ATGGGTATGGGCTGCAAAATTCAAGCGATGGCCTGAGCAATTGGTGCTGCTTTTACTGAA
 GGCTTATCAAGTGGTAAACTCTTGTGCTGTTCTGTGATGAGTTGGCTCATGAA
 TTAGGTGACTTTGTGTTCTACTAAAGGCTGGCATGACCGTTAACGGCTGTCCCTTAT
 AATGCAATTGTCAGCAGTCAGGGCTATTTGGAAATGGCAACAGGAATTTCATTGGTCA
 TATGTCAGGAAATGTTCTATGTTGATATTGTCACATGTCAGTGTAGTGACCTGGATGTC
 GCTGGGGTATATGGTACCTGAAATGTCACAAATGTCAGTGTAGTGACCTGGATGTC
 CGCTGGGGTATTTTCAAGAGAATGTCAGGATGCTTTGGTTTGGAAATTGTTA
 CTTATTCATATTGAAACATAAAATCGTGTTCTGATAAAATTCTAG

FIG.2

MARKLSVILITFALSVTNPNLHELKAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
 FYRYGENNSLSVEGFRKLLQNIGIDKIKRHIHHHDHHSDEHHSDHERHSDEHHSDH
 EHHSDHDDHSHHHNHAASGKNNKRKALCPDHDSSSGKDPRNSSQKGKAHRPEHASGRNVKD
 SVSASEVTSTVNTVSEGTHTFLETIETPRPGKLFFPKDVSSSTPPSVTSKSRVSRLAGRKT
 NESVSEPRKGFMYSRNTNENPQECAFNAKSLLTSHGMGIQVPLNATEFNYLCPAIIINQIDA
 RSCLIHTESKKEAIPPKTYSLQIAWVGGFTAIATISLSEFVILVPLMNRYVFEKELSF
 LVALAVGTLGSDAFLHLLPHSHASHHHSHSHEEPMEMKRGPFLFSHLSSQNIIEEFSYFDS
 TWKGLTALGGTTLGKQFDKKKKNNQKPNENDDVEIJKQLSKYESQSLSTN
 EEWKVDTDDRTEGYLRADSQEPEHFDSSQPAVLEEEEVMIAAHHPQEVEVNEYVPRGCKNC
 HSHFHDTLGQSDDLIIHHHHHDYHILHHHHHHQNHPHSHSQRSEELKDAGVATLAWMVI
 MGDLHNFSQDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGTVKQAVLYN
 ALSANLAYLGEHATGTFIGHYAEVSMVLEALTAGIFHYVAEVDMVPEMLHNDASDNGCSR
 WGYYFLQNAQHMLLGEQGIMLLISTFEHKIVFRINF.

FIG.3